



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/708,470

03/05/2004

Michael Hui Du

2469

35204

7590

03/22/2006

SCHLUMBERGER RESERVOIR COMPLETIONS
14910 AIRLINE ROAD
ROSHARON, TX 77583

EXAMINER

BELT, SAMUEL E

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,470	Applicant(s) DU ET AL.	
	Examiner Samuel E. Belt	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/06/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 3/5/2004 is acknowledged. Since submission complies with 37 CFR 1.97 and 1.98, the examiner has considered the references listed therein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8-9, 12-18, 23-30, 36, 38-41, & 44-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilmer et al. (US Patent 4,477,235).

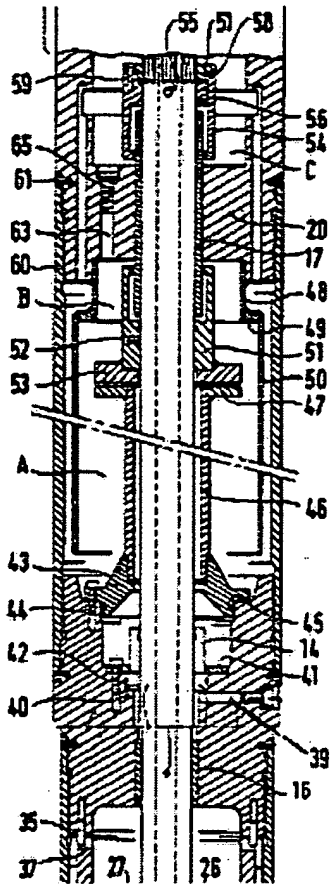
Gilmer et al. disclose a submerged motor-pump unit comprising: a motor protector (Figure 1, item 7) having an outer housing (Figure 4, item 28), an internal shaft (Figure 4, item 12), a fluid separation section (Figure 4, item A) and a head section (See Figure in **Note 1**), the head section having an abrasives exclusion mechanism (Figure 4, items 43, 46-47, 50) to reduce motor protector wear; wherein the abrasives exclusion mechanism comprises an upper shaft seal (Figure 4, item 43) elevated above the floor of the head section; wherein the abrasives exclusion mechanism comprises a drainage hole disposed through the outer housing (Figure 4, item 39) at a lower end of the head section; wherein the abrasives exclusion mechanism comprises a stationary shroud deployed over the upper shaft seal (Figure 4, item 50); further comprising a rotatable shroud (Figure 4, item 51) attached to the internal shaft proximate the stationary shroud; wherein the internal shaft comprises an internal air vent passageway (column 4, line 11); wherein the internal shaft is supported by at least one keyless journal bearing (Figure 4, items 15, 16, & 17); wherein the head section comprises an internal chamber into which a drive shaft extends (Not labeled; However clearly seen in Figure 4); further comprising placing a fluid port (Figure 4, item 37) through the lower portion of the head section to provide fluid communication between the head section chamber and a lower motor protector section.

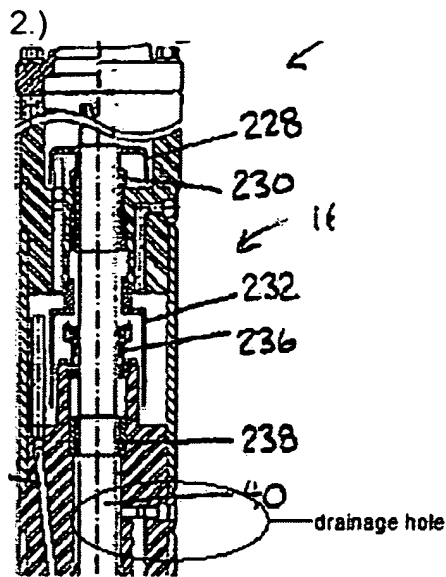
Claims 1- 6, 9-31, & 37-47 are rejected under 35 U.S.C. 102 (a) or (e) as being anticipated by Du et al. (US Patent publication 2002/0192090).

Du et al. disclose a system for use in an electric submersible pumping system, comprising: a motor protector (Figure 16, item 16) having an outer housing (Figure 16, item 38), an internal shaft (Figure 16, item 40), a fluid separation section (Figure 16, item 224) and a head section (Figure 16A), the head section having an abrasives exclusion mechanism (Figure 16, items 216, 218, & 234) to reduce motor protector wear; wherein the abrasives exclusion mechanism comprises an upper shaft seal (Figure 16, item 236) elevated above the floor of the head section; wherein the abrasives exclusion mechanism comprises a drainage hole disposed through the outer housing (See Figure in **Note 2**) at a lower end of the head section; wherein the abrasives exclusion mechanism comprises a stationary shroud deployed over the upper shaft seal (Figure 16, item 232); further comprising a rotatable shroud (Figure 16, item 228) attached to the internal shaft proximate the stationary shroud; a stand tube extending upwardly from the fluid port (Figure 16, item 240); wherein the internal shaft is supported by at least one keyless journal bearing (Figure 16, item 238); wherein the motor protector further comprises a pressure valve, the valve being inwardly oriented to relieve excessive negative pressure within the motor protector (paragraph 53); wherein the motor protector further comprises a bag section, the bag section having a fiber-reinforced polymer bag (paragraph 10+);

(Notes:

- 1.) The figure below is being considered as the "head section" of the motor protector.





End Notes)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 19-20, 31, & 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilmer et al. (US Patent 4,477,235) in view of Turner (US Patent 5,367,214).

In regards to claims 6, 20, 31, & 42 Gilmer et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Gilmer et al.

Art Unit: 3746

device differs from the claimed invention in that there is no explicit teaching of a stand tube extending upwardly from the fluid port. Turner teaches a motor protector having a stand pipe in communication with a fluid port (column 9, lines 25+).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Gilmer et al. device by using the stand pipe as taught by Turner, in order to control the volume in the respective chambers by permitting a path for excess motor fluid to be exhausted to other chambers.

In regards to claims 19 Gilmer et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Gilmer et al. device differs from the claimed invention in that there is no explicit teaching of labyrinth and or bag section. Turner teaches a motor protector which discloses "labyrinth" and "bag" type configurations as being two types of protective devices that have been employed in the field of service for many years (column 2, lines 20+).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Gilmer et al. device by using the labyrinth and or bag section as taught by Turner, in order to keep the motor fluid free from contamination.

Claims 11, & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilmer et al. (US Patent 4,477,235) in view of Turner (US Patent 5,367,214) further in view of Traylor (US Patent 6,595,280).

Gilmer et al. and Turner set forth a device as described above, which is substantially analogous to the claimed invention. The Gilmer et al. and Turner device differs from the claimed invention in that there is no explicit teaching of using a fiber-reinforced polymer bag. Traylor teaches a submersible well pumping system having a diaphragm made of a fiber reinforced rubber (column 6, lines 51+).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Gilmer et al. and Turner device by using the fiber reinforced rubber as taught by Traylor, in order to provide a flexible/durable material that would provide better protection from contamination thus extending the life of the motor & motor protector.

Claims 10, 21, 37, & 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilmer et al. (US Patent 4,477,235) in view of Traylor (US Patent 6,595,280).

Gilmer et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Gilmer et al. device differs from the claimed invention in that there is no explicit teaching of a valve to relieve excessive negative pressure within the motor protector. Traylor teaches a submersible well pumping

Art Unit: 3746

system having a pressure relief valve to balance the pressures within the housing (column 6, lines 1+).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Gilmer et al. device by using the pressure relief valve to relieve excessive negative pressures within the housing as taught by Turner, in order to keep the motor protector from being damaged by any dangerous pressures.

Claims 7, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. (US Patent publication 2002/0192090) and optionally in view of Poirier (US Patent 5,699,859).

Du et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Du et al. device differs from the claimed invention in that there is no explicit teaching of a filter in a bent stand tube. However, Du et al. does disclose that filters, absorbents, and protection devices may be provided to protect and prolong the life of the motor 14 (paragraph 76). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Du et al. device by using the stand tube with a filter in order to keep contaminants from reaching other chambers in the motor protector thus protecting them from damage. Alternately Poirier teaches a bent stand tube with a filter (Figure 5, item 42).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Du et al. device by using the stand tube with a filter as taught by Poirier, in order to keep contaminants from reaching other chambers in the motor protector thus protecting them from damage.

(**Note:** In regard to claim 35, the filter is being considered as the cap since a cap, as defined by Merriam-Webster is a fitting that serves as a cover for protection)

Claims 7, 33, & 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. (US Patent publication 2002/0192090) in view of Gilmer et al. (US Patent 4,477,235).

Du et al. sets forth a device as described above, which is substantially analogous to the claimed invention. The Du et al. device differs from the claimed invention in that there is no explicit teaching of an internal shaft comprising an internal air vent

Art Unit: 3746

passageway. Gilmer et al. teach a motor pump unit with a hollow shaft (column 4, line 11).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the Du et al. device by using the hollow shaft as taught by Gilmer et al., in order to provide a path for cooling oil to flow through.


Conclusion

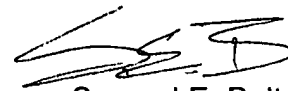
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel E. Belt whose telephone number is (571) 272-7820. The examiner can normally be reached on M-F, 8 - 4:30EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on (571) 272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEB


TAE JUN KIM
PRIMARY EXAMINER


Samuel E. Belt
03/16/2006